## Agree without Agreement: Switch-Reference in Two Panoan Languages

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**Overview**: The Panoan languages Shipibo and Yawanawa have unusual switch-reference (SR) systems in what (we claim) is a theoretically instructive way. They make the standard morphological distinction between a "same-subject" (SS) form (*-ax* or *-xon*) and a "different subject" (DS) form (*-ke-tian*), depending on whether the subject of the embedded clause is coreferential with the subject of the matrix clause ((1a)) or not ((1c)). However, they are unusual in that they have a third member in the SR paradigm: a special OS form (*-a*) that shows that the object of the embedded clause is coreferential with the subject of the matrix clause ((1b)) (see Valenzuela 2003, Baker 2014, etc., pace Camacho 2010).

- (1) a. José=ra [Rosa oin-**ax**] xobo-n ka-ke. Shipibo (Valenzuela 2003: 424; José=PRT Rosa see-SS.ABS house-LOC go-PRV Baker 2014: 364) 'He<sub>i</sub> seeing Rosa<sub>i</sub>, José<sub>i</sub> went home.' (Note: =*ra* PRT is a second position clitic)
  - b. [José-kan Rosa oin-**a**]=ra, xobo-n ka-ke. José-ERG Rosa see-OS=PRT house-LOC go-PRV 'When José<sub>i</sub> saw Rosa<sub>j</sub>, she<sub>j</sub> went home.'
  - c. [José-kan Rosa oin-ke-**tian**]=ra, (ja) xobo-n ka-ke. José-ERG Rosa see-PRV-DS=PRT 3SG home-LOC go-PRV 'When José<sub>i</sub> saw Rosa<sub>i</sub>, he<sub>m</sub>/she<sub>k</sub> (someone else) went home.'

We argue that the presence of both SS and OS forms in these languages make it particularly clear that Chomsky's (2000, 2001) relation of Agree is at work to pick out which NP in the embedded clause (the "antipivot") is coreferential with the subject of the matrix clause (the "pivot"). Nevertheless the functional head of the embedded clause that is realized as the SR marker does not visibly agree with the antipivot in phi-features such as person or number—a somewhat paradoxical case of Agree without agreement.

We claim that this paradox has a satisfying resolution if we follow recent work that breaks agreement into two distinct parts (e.g., Arregi and Nevins 2012, Bhatt and Walkow 2013, Marušič, Nevins, and Badecker 2015): *Agree-Link*, which creates a pointer from a functional head to a nearby NP, and *Agree-Copy*, which transfers phi-features from the goal to the probe and deletes the pointer ("dereferencing"). Previous work draws this distinction so as to order PF processes like the fixing of linear order between the two components of Agree. We propose to use the same distinction in a different way: SR is the result of applying Agree-Link but *not* Agree-Copy. As a result, the phi-features of the goal are not placed on the probe, and a pointer from the probe to the goal survives to LF. When there are pointers from a head to two distinct NP goals, LF interprets the pointers as expressing referential dependency between the NPs.

**Empirical Evidence of Agree at work in SR:** Agree is fundamentally a relationship between a functional head F and an NP such that: (i) F c-commands NP, (ii) no other NP intervenes between F and NP, (iii) no spell out domain contains NP but not F, and (iv) NP is active for Agree by not bearing an oblique case feature (parameterized). There is rather rich evidence that this relationship holds between the antipivot and the SR head, which we claim to be T for SS marking (cf. normal subject agreement) and v for OS marking (cf. normal object agreement). In particular:

(*i*) *F c*-commands the NP. This holds fairly trivially (by hypothesis), but is consistent with the fact that SR markers look like high functional heads, showing up as the outermost suffixes on the verb in (1).

(*ii*) No other NP intervenes between F and the antipivot. This is seen best with SS marking, where the antipivot is the highest NP in the clause. For example, in (2) SS marking shows that the higher experiencer argument of 'forget' is coreferential with the matrix subject, not the lower theme of 'forget', even though both arguments have absolutive case and the nonagentive v is probably not a strong phase head. (One might also expect intervention to imply that only goal arguments can be antipivots for OS marking on ditransitive clauses, but Shipibo happens to be a "symmetrical object language" (Valenzuela 2003); we analyze this using NP movement internal to a transitive VP, following McGinnis 2001).

(2) [José yapa shinanbeno-xon]=ra, {pi-ke nami / #ea jako-ma-ke}.

José fish forget-SS=PRT eat-PRF meat me sick-CAUS-PRF

OK: 'When José forgot the fish, he ate meat.' Not: 'When José forgot the fish, it made me sick.'

(ii) No spell out domain contains NP but not F. This is seen most clearly with OS marking (since it is redundant with the intervention condition for SS). Thus the antipivot of an OS clause can be the object of the clause, but not the object of a PP or the possessor of a DP. This follows from Agree given that P and D are phase heads. Moreover, the object of an embedded verb cannot be the antipivot in cases of full CP clausal embedding ((3a)), but it can be if the higher verb takes a "reduced" VP complement ((3b)). (3)

keen-a]=ra, a. \*[En [<sub>CP</sub> PRO Rosa oin-ti] xobo-n ka-ke. I-ERG Rosa see-INF want-OS=PRT house-LOC go-PRF

('I wanted to see Rosa, but she (Rosa) went home.') (OK with keen-ke-tian, DS form)

b. [Jose-kan [<sub>VP</sub> Rosa kena-ti] atipan-a]=ra, bene-ke. José-ERG Rosa call-INF can-OS=PRT be.happy-PRF

'Because José was able to call Rosa, she (Rosa) was happy.' (# with DS form)

(iv) NP must be active. This can be seen with OS marking, where NP complements in oblique case (dative, instrumental) cannot be antipivots, as shown in (4). (Ergative subjects remain active for Agree in Panoan, and these languages do not have oblique case subjects. However, Imbabura Quechua does have quirky-case subjects, and these do not count as antipivots for SS marking (Hermon 1984:115)). (4)

\*[Rosa Jose-ki sinat-a]=ra, xobo-n ka-ke.

Rosa José-DAT be.angry-OS=PRT house-LOC go-PRF

('Rosa was angry with Jose, so he went home.') (OK with *sina-ke-tian*, DS form) So the relationship between SR morphemes and antipivots has all the properties characteristic of Agree.

Agree-Link as a representation of referential dependency: Even if a pointer created by Agree-Link remains at LF when Agree-Copy does not apply, this is not by itself interpreted as a referential dependency, since functional heads are not referential. However, two pointers from the same position to two different NPs can plausibly be interpreted by LF as referential dependency holding between the NPs pointed-to. The second pointer comes, we claim, from a C head at the top of the adjunct clause entering into Agree with the subject of the matrix clause. This Agree relation is parallel to the agreement in case found between adjuncts and subjects elsewhere in Panoan ("participant agreement", Valenzuela 2004) and other languages. The full analysis of SS, then, is that C Agrees with the subject in the matrix clause, T Agrees with the subject in the embedded clause, and T moves to C (HM), fusing into one head that expresses both tense/aspect and SS marking; see (5). The full analysis of OS is: C agrees with the subject in the matrix clause, v agrees with the object in the embedded clause, and v moves to C over T to fuse into one head, spelled out as -a; see (6). The fact that OS involves a long head movement (LHM) whereas SS does not plausibly accounts for the fact that OS is typologically much rarer than SS, found only in Panoan languages. In both cases, the chain of pointers gives coreference. DS marking is by default.

 $\begin{bmatrix} \left[ \left[ v_{P} \text{ pro } [v_{P} \text{ Rosa see} ] v \right] T \right] C \end{bmatrix} \begin{bmatrix} v_{P} \text{ José } [v_{P} \text{ home-LOC go} ] v \end{bmatrix} (=(1a))$   $Agree-Link \qquad Agree-Link \qquad T+C=-ax (a)$ (5) T+C=-ax (SS)

(6)v+C=-a (OS)

Extensions: Our proposals can also account for a slightly different form of SS marking, found in Choctaw (Broadwell 2006). Whereas the normal realization of tense/aspect and subject agreement is lost in SS clauses in Panoan, since T is fused with C to create SS, in Choctaw SS marking is clearly attached to C, and normal tense and subject agreement are present in the adjunct clause. This is the result of C itself being specified as Agreeing twice, with the higher subject and with the lower subject. These notions can also be applied to reflexive/reciprocal marking in Panoan languages (see (7)) and beyond. This is the result of a single head, tentatively v, invariant for phi-features, undergoing Agree-Link (but not Agree-Copy) twice, with the two NPs closest to it, here the agent in Spec vP and an object in VP. This induces referential dependence between the two. We may hope that this framework will provide a general theory of referential dependencies between NPs induced by functional heads at any point in the clausal spine.

Jabo=ra yapa meni-anan-ke. (7)they=PRT fish give-RECIP-PRF

(Valenzuela 2003) 'They gave each other fish.'